

Two New Species and a New Record of the *Holotrichia constricta* Group (Scarabaeidae, Melolonthinae, Melolonthini)

Takeshi ITOH

Nishimiyahara 2–6–20–102, Yodogawa-ku, Osaka, 532–0004 Japan

Abstract Two new species of the *Holotrichia constricta* group are described from the Philippines under the names, *H. angulicalcarata* and *H. cebuana*. *Holotrichia sexspecula* CHAPIN is recorded from Mindoro and Mindanao Islands, the Philippines for the first time.

Up to date, no records have been brought to us on the species of the genus *Holotrichia* from the Visayan Islands, the Philippines except for CHAPIN (1931) and my latest work (ITO, 2003). In spite of these scarce reports, I have already noticed that still more unnamed species would be found in the Visayan Islands. Almost all the unnamed species are considered to belong to the *Holotrichia constricta* group, which was proposed by BRENSKE and was referred to in my report above. In this article, I am going to describe two new species from Mindoro and Cebu Islands, respectively, and to record a Negrosian species, *Holotrichia sexspecula* CHAPIN from Mindoro and Mindanao Islands for the first time.

The abbreviations used herein are as follows: IN – interocular distance; HW – head width; Ph – pronotal height; PW – pronotal width; PL – pronotal length; FL – metafemoral length; FW – metafemoral width; A – arithmetic mean; OMNH – Osaka Museum of Natural History, Osaka; ZMHUB – Zoological Museum of Humboldt University, Berlin; CA – author's collection.

Before going further, I would like to express my cordial thanks to Mr. Danny D. MOHAGAN, the best native collector in the Philippines, for obtaining and offering invaluable materials used in this study.

Holotrichia angulicalcarata ITOH, sp. nov.

(Figs. 1, 6–8, 10, 13, 15, 17, 19, 21, 23)

Description. Length: 24.3–28.6 mm.

Male. Body elongate. Head, mouth parts, pronotum, scutellum and tibiae dark brown, antennae, elytra, pro- to metasterna, metacoxae and legs except for tibiae lighter brown, propygidium, pygidium and abdomen much paler, light brown. Dorsal and ventral surfaces opaque, the former weakly iridescent, legs shining.

Head wide, HW/PW 0.71–0.76 (A 0.74, $n=18$); clypeus bilobed, emarginate at the middle of anterior margin; frons feebly convex, more roughened anteriorly and laterally, with or without a pair of shallow concavities postero-laterally; vertex hardly ridged, without or hardly with transverse impunctate band; occiput coarsely and densely punctate, the punctures extending toward foramen beyond the level of posterior margin of eye; mentum parallel-sided, gradually narrowed anteriorly, with a distinct longitudinal ridge in each lateral portion; IN/HW 0.65–0.73 (A 0.68, $n=18$); antennae with short 3-segmented club, which is longer than four preceding segments together; maxillary palpus with apical segment gradually widened toward apical 1/3 to 1/2, thence of the same width and gently truncate at apex.

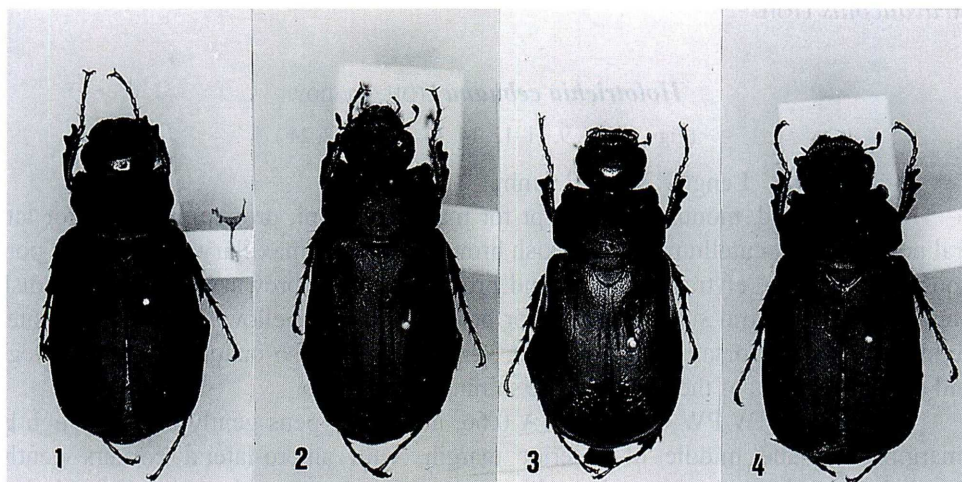
Pronotum moderately produced laterad and strongly constricted basad, excavated near posterior angle, Ph/PW 0.54–0.61 (A 0.57, $n=18$), PL/PW 0.55–0.60 (A 0.57, $n=18$); anterior angle subrectangular, posterior one blunt, close to 150° in lateral view; lateral margin distinctly sinuate along both antero-lateral and postero-lateral portions, weakly or hardly reflexed near anterior angle; posterior margin rimmed throughout; disc smooth, finely and rather sparsely punctate, more sparsely so in excavated portions, the surroundings of punctures hardly concave, with small impression near each lateral angle, with or without postero-lateral one before each declivity. Scutellum 1.7–2.1 times as wide as long, finely punctate.

Elytra smooth, with five weakly elevated costae; area just behind humeral knob feebly depressed obliquely. Propygidium smooth, coarsely punctate. Pygidium rather convex, smooth, sparsely and finely punctate, with the surroundings of punctures hardly concave.

Prosternum with basisternum broadened laterally and angulate or not near the sides of anterior margin; post-coxal process flattened and weakly raised. Abdomen almost opaque except on the 6th sternite, haired irregularly; 2nd sternite densely covered with short hairs except on central portion, the central portion of 2nd, almost whole of 3rd to 6th haired sparsely, 3rd to 5th sternites often covered with longer recumbent hairs laterad.

Legs stout; metacoxa round at the postero-lateral corner, neither sharp nor produced; metafemur moderately swollen, sparsely and finely punctate, with a row of short hairs on the surface, which are at most 4/9 times as long as the metafemoral width; FW/FL 0.33–0.37 (A 0.35, $n=18$); protibia tridentate, with 3rd denticle at basal 0.47–0.57 (A 0.49, $n=17$), and with 2nd denticle about intermediate between 1st and 3rd denticles; meso- and metatibiae with some small serrations on upper sides, average two serrations on mesotibia and average seven on metatibia; metatibial apical spurs slender, with the longer one longer than 1st metatarsal segment, which is about as long as the 2nd; claws each moderately to rather strongly bent with a sharp denticle at base, the denticle of outer claw of metatarsus slightly smaller than that of inner claw.

Male genitalia with both parameres almost coalescent on upper side, gently and vertically truncate apicad in lateral view; internal sac with lingulate sclerite; spiculum gastrale slender Y-shaped, with the shaft longer than both branches.



Figs. 1–4. — 1, *Holotrichia angulicalcarata* ITOH, sp. nov.; 2, *H. cebuana* ITOH, sp. nov., ♂; 3, ditto, ♀; 4, *H. sexspecula*, ♂ (Mt. Matotom, S. Mindanao).

Female. HW/PW 0.69–0.78 (A 0.72, $n=7$), clypeus with a distinct oblique furrow on each side. IN/HW 0.64–0.70 (A 0.67, $n=7$); antennal club longer than or as long as four preceding segments together. Ph/PW 0.51–0.56 (A 0.54, $n=7$), PL/PW 0.56–0.58 (A 0.57, $n=7$). Scutellum 1.8–2.3 times as wide as long. Legs more robust; metafemur rather strongly swollen, FW/FL 0.38–0.47 (A 0.41, $n=7$), metafemoral hairs on the surface at most 4/9 times as long as the metafemoral width; protibia with 3rd denticle at basal 0.43–0.50 (A 0.47, $n=7$), mesotibial serrations on the upper side average one, metatibial ones average seven, respectively; longer one of metatibial apical spurs strongly widened toward apical 3/10, thence gently angulate.

Female genitalia as shown in Fig. 23.

Distribution. Mindoro and Palawan Islands (the Philippines).

Type series. Holotype: 1 ♂, Is. Mindoro, Philippines, V–1993 (OMNH TI-169). Paratypes: 1 ♂, 1 ♀, same data as for the holotype; 1 ♂, same locality, VI–1993; 1 ♂, Mindoro Oriental, Philippines, 12–VII–1993; 3 ♂♂, 1 ♀, Mt. Halcon, Is. Mindoro, Philippines, VI–1993; 6 ♂♂, 4 ♀♀, same locality, 1–15–IV–1990, D. MOHAGAN; 1 ♀, same locality, VI–1992; 2 ♂♂, Puerto Galra Oriental, Mindoro Is., Philippines, VI–1993; 3 ♂♂, Mt. Mantalingjan, Is. Palawan, Philippines, III–1996, D. MOHAGAN leg. The holotype and one paratype are deposited in OMNH, two paratypes in ZMHUB and the remaining ones in CA.

Remarks. The present new species resembles the partly sympatric species, *H. excavaticollis* ITOH, 2003 from Palawan, Panay, Mindoro, Cuyo and Dumarán Islands in the shared characters, extremely constricted pronotum and the angular longer spur of the metatibia in female, but judging from the lingulate sclerite of the internal sac of male genitalia, it is considered to be rather allied to *H. flachi* BRENSKE, 1892 than to *H.*

excavaticollis ITOH.

***Holotrichia cebuana* ITOH, sp. nov.**

(Figs. 2–3, 5, 9, 11–12, 14, 16, 18, 20, 22, 24)

Description. Length: 20.5–22.7 mm.

Male. Head, mouth parts except for maxillary palpi, pronotum except for lateral portions and scutellum dark blackish brown, antennae, maxillary palpi, lateral portions of pronotum, elytra, pygidium and prosternum dark brown with feebly reddish tinge, legs and ventral surface except for prosternum dark yellowish brown to lighter yellowish brown. Dorsal surface opaque, ventral surface also opaque though the legs and central portions of the abdomen are shining.

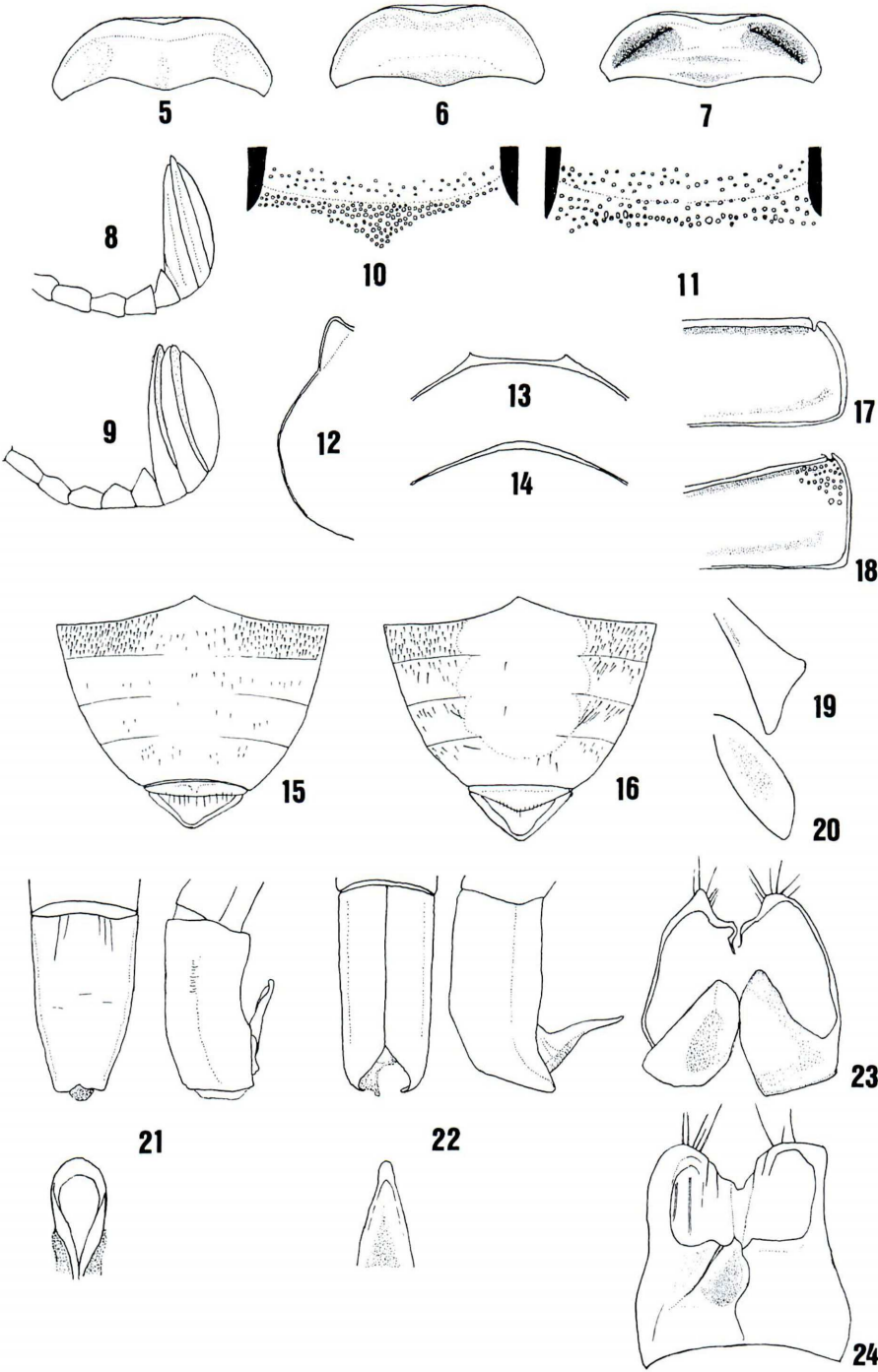
Head wide, HW/PW 0.64–0.68 (A 0.66, n=12); clypeus gently bilobed, slightly emarginate at the middle of anterior margin, with antero-lateral corners gently rounded; frons feebly roughened, weakly concave in central portion; vertex feebly but conspicuously ridged, without distinct transverse impunctate band; occiput coarsely and densely punctate, the punctures feebly extending posteriorly beyond the level of posterior margin of eye; mentum almost parallel-sided with a distinct longitudinal ridge in each lateral portion; IN/HW 0.66–0.69 (A 0.68, n=12); antennae with short 3-segmented club, which is approximately as long as five preceding segments together; maxillary palpus with apical segment elongate and slender, widened toward apical 1/3 or more apically, and rounded at apex.

Pronotum quadrate, convex, moderately produced, not constricted basally, Ph/PW 0.50–0.55 (A 0.52, n=12), PL/PW 0.56–0.59 (A 0.58, n=12); anterior angle rectangular or gently and roundly produced anteriad, posterior one blunt, close to 150° in lateral view; lateral margin irregularly shaped, widely reflexed between anterior angle and apical 2/5–1/2 and often forming a remarkable lobe there; posterior margin rimmed throughout; disc smooth, slightly coarsely and sparsely punctate, the surroundings of punctures obscurely concave, with or without small impression near each lateral angle. Scutellum wide, 1.9–2.2 times as wide as long.

Elytra smooth; sutural costa distinct, 2nd, 3rd and 4th obscurely and weakly elevated, 5th narrow, distinctly or obscurely elevated. Propygidium densely, very coarsely and clearly umbilicately punctate especially in apical half. Pygidium rather convex, the punctures sparse, very coarse and umbilicate though they are concentratedly dense in the apical portion.

Prosternum with basisternum furrowed, strongly broadened laterad, angulate near the sides of anterior margin; post-coxal process thin and gently convex. Abdomen

Figs. 5–24. — 6–8, 10, 13, 15, 17, 19, 21, 23: *Holotrichia angulicalcarata*; 5, 9, 11–12, 14, 16, 18, 20, 22, 24: *H. cebuana*. — 5–7, Clypeus (5, 6: ♂, 7: ♀); 8–9, antenna, ♂; 10–11, occiput; 12, antero-lateral portion of pronotal lateral margin; 13–14, prosternal postcoxal process; 15–16, abdomen; 17–18, metacoxa; 19–20, longer metatibial apical spur of female; 21–22, male genitalia (dorsal and lateral views, and sclerite of internal sac); 23–24, coxite of female genitalia.



rather opaque except in central round portion and 6th sternite, haired irregularly: central portion hardly haired or with a transverse row of short sparse hairs, lateral portions of 2nd sternite moderately densely with very short hairs, those of 3rd to 5th ones with some long recumbent or semirecumbent hairs in addition to short hairs, long ones of which are often extendingly distributed toward the central area.

Legs stout; metacoxa almost rectangular at postero-lateral corner, gently curved along its lateral side and irregularly impunctate, for example, in almost all posterior portions or only near posterior angle or in other different ways; metafemur rather swollen, not slender, more densely punctate apicad than basad, with a row of long hairs on the surface, which are at most 5/9 times as long as the metafemoral width; FW/FL 0.36–0.39 (A 0.38, $n=12$); protibia tridentate, with 3rd denticle at basal 0.52–0.58 (A 0.55, $n=11$), with 2nd denticle rather close to 1st denticle; meso- and metatibiae with some small serrations on upper sides, average five serrations on mesotibia and average nine on metatibia; metatibial apical spurs more or less widened toward middle, the longer one being as long as 1st metatarsal segment, which is about as long as the 2nd; claws each strongly bent, with a sharp small and vertical denticle at the base, the denticle of outer claw of metatarsus slightly smaller than that of inner claw.

Male genitalia with parameres each obliquely truncate near apex in lateral view and becoming a gently pointed apex, which is directed downward; internal sac with gradually tapered, narrow and lingulate sclerite; spiculum gastrale with the shaft approximately as long as both branches.

Female. Body more robust. HW/PW 0.63–0.65 (A 0.64, $n=2$), IN/HW 0.68 ($n=2$), antennal club shorter than or as long as five preceding segments together. Pronotum with a shining small impression on each lateral angle and a rather large, shining and shallow impression on each antero-lateral area. Ph/PW 0.48–0.55 (A 0.52, $n=2$), PL/PW 0.60–0.61 (A 0.61, $n=2$). Scutellum 2.2 times as wide as long.

Each elytron with two shining portions on the lateral and apical areas, respectively, the former being from humeral knob to the middle and the latter, which is moderately or sparsely covered with short thick hairs, being a round and rugose portion between apical knob and suture. Legs more robust; metafemur more swollen, FW/FL 0.44–0.46 (A 0.45, $n=2$), metafemoral hairs on the surface at most half as long as metafemoral width; protibia with 3rd denticle at basal 0.50–0.52 (A 0.51, $n=2$), mesotibial serrations on the upper side average seven, metatibial ones average nine, respectively; both metatibial apical spurs stout and foliorate. Female genitalia as shown in Fig. 24.

Distribution. Cebu Is. (the Philippines).

Type series. Holotype: 1 ♂, southern Cebu, Philippines, 10–VII–2002 (OMNH TI–170). Paratypes: 11 ♂♂, 2 ♀♀, same data as for the holotype. The holotype and one paratype are deposited in OMNH, two paratypes in ZMHUB and the remaining ones in CA.

Remarks. The present new species is closely allied to *Holotrichia sexspecula* CHAPIN, 1931, from Negros Island. The differences between these two species are

Table. 1. Differences between *Holotrichia sexspecula* and *H. cebuana*.

	<i>H. cebuana</i>	<i>H. sexspecula</i>
Anterior portion of pronotal lateral margin	weakly lobed	with remarkably and laterally produced lobe
Color of lateral portions of pronotum	brighter than that of central area	same as that of central area
Antero-lateral portions of pronotum in female	shining	opaque
Elytral apical portion in female	widely shining	not shining
Bundle of thick hairs near elytral suture in female	absent	present
Punctuation of metacoxae	uniform in whole area	irregular, partly impunctate

shown in Table. 1.

Holotrichia sexspecula CHAPIN, 1931

(Fig. 4)

Holotrichia sexspecula CHAPIN, 1931, J. Wash. Acad. Sci., **21**: 311–312 (Negros Is.).

Distribution. Negros, Mindoro [new record], Mindanao [new record] (the Philippines).

Specimens examined. 1♂, Is. Mindoro, Philippines, 19~30–VI–1990, D. MOHAGAN leg.; 1♂, Mt. Kitanglad, N. Mindanao, Philippines, 5~13–VI–1991, D. MOHAGAN leg.; 1♂, same locality, 25–V–1990, D. MOHAGAN leg.; 1♂, Mt. Matotom, S. Mindanao, Philippines, II–1996.

Remarks. This species was originally described by CHAPIN from Negros Island. The materials from Mindoro and Mindanao Islands agree with *H. sexspecula* rather than with *H. cebuana* in bright coloration of whole body, paler coloration of lateral portions of the pronotum and well developed lobe of lateral margin of the pronotum. Thus, I determined these materials as *H. sexspecula*.

要 約

伊藤 武： *Holotrichia constricta* 群の2新種と1新記録。—— 現在までフィリピンのビザヤ諸島からのクロコガネ類の報告はCHAPIN (1931)とITOH (2003)のみであるが、今回ミンドロ島とパラワン島より *H. angulicalcarata* を、セブ島より *H. cebuana* を *H. constricta* 群の新種として報告した。 *H. angulicalcarata* は前胸背板基部が極端に引き締まること、雌の後脛節先端にある棘のうち長いほうは角張るなどの点で *H. excavaticollis* ITOH に似ているが、雄交尾器内囊の骨片の構造からむしろ *H. flachi* BRENSKE に近縁なものと考えられる。 *H. cebuana* は *H. sexspecula* CHAPIN に近縁であるが、全体に黒っぽく、前胸背板側縁の葉部があまり発達しないこと、前胸背板側部の

色が中央部よりやや明るい点で区別できる。 *H. sexspecula* CHAPIN は従来ネグロス島のみから知られてきたが、ミンドロ島とミンダナオ島からも同一種であると判定される材料が得られたので両島からの新記録とした。

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New Localities of *Pyrocoelia matsumurai matsumurai* (Coleoptera, Lampyridae, Lampyrinae) from the Okinawa Islands

Itsuro KAWASHIMA

Nagasawa 1–50–9, Yokosuka-shi, Kanagawa, 239–0842 Japan

A middle-sized lampyrine beetle, *Pyrocoelia matsumurai matsumurai* NAKANE, 1963 has been known to occur on Okinawa-jima Island only. The present author was able to collect this species from two other islands, and will record them below as its new localities.

Materials examined. [Sezoko-jima Is.] 12 larvae, 2–XII–2002, I. KAWASHIMA leg.; [Yagachi-jima Is.] 16 larvae, 2–XII–2002, I. KAWASHIMA leg.

Distribution. Okinawa Isls., Ryukyus: Okinawa-jima Is., Sezoko-jima Is. and Yagachi-jima Is.

Remarks. This species is very common in Okinawa-jima Is. and the two islands recorded above. However, it has never been met with on Iheya-jima Is., which is located off the northern tip of Okinawa Island.